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and said culturing provides for expression of the immunoglobulin light and heavy chains; and harvesting specific antigen-binding antibody from culture supernatant, which antibody specifically binds an antigen of interest.

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- 37. The method of Claim 36, wherein each of said first and second signal sequences is a yeast  $\alpha$ -factor signal sequence.
- 38. The method of Claim 37, wherein each of said first and second signal sequences is a Saccharomyces cerevisiae  $\alpha$ -factor signal sequence.
  - 39. The method of Claim 36, wherein said *Pichia* is *Pichia pastoris*.
  - 40. The method of Claim 39, wherein said *Pichia pastoris* is *Pichia* strain SMD1168.
  - 41. The method of Claim 36, wherein said antibody specifically binds dioxin.
- 42. The method of Clarm 36, wherein each of said first and second promoters is an inducible promoter.
- 43. The method of Claim 42, wherein each of said first and second promoters is an alcohol oxidase promoter.
- 44. The method of Claim 43, wherein said each of first and second promoters is a *Pichia* alcohol oxidase promoter.
- 45. The method of Claim 36, wherein the antibody is a mouse antibody, a humanized mouse antibody, or a human antibody.
- 46. The method of Claim 36, wherein the antibody is recovered from the culture supernatant at more than about 10mg/l.

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47. A *Pichia* expression vector comprising:

a first and a second expression cassette, said first cassette comprising a first promoter operably linked to a nucleic acid encoding an immunoglobulin light chain operably linked to a first signal peptide, and said second cassette comprising a second promoter operably linked to a nucleic acid encoding an immunoglobulin heavy chain operably linked to a second signal peptide,

wherein introduction of said vector into a *Pichia* host cell provides for production of a recombinant immunoglobulin protein that specifically binds an antigen and is secreted by the host cell.

- 48. A recombinant *Pichia* cell containing the expression vector of claim 47.
- 49. A method for production of an antibody comprising the steps of: culturing the recombinant *Pichia* cell of claim 48 so as to provide for antibody expression; and harvesting the antibody from culture supernatant.
- 50. **(new)** A method for production of an antibody that specifically binds an antigen of interest, the method comprising the steps of:

culturing a recombinant *Pichia* cell, the cell comprising a vector comprising a first and a second expression cassette, wherein:

said first expression cassette comprising a *Pichia* alcohol oxidase promoter operably linked to a nucleic acid encoding an immunoglobulin light chain operably linked to a first signal peptide;

said second expression cassette comprising a *Pichia* alcohol oxidase promoter operably linked to a nucleic acid encoding an immunoglobulin heavy chain operably linked to a second signal peptide,

and said culturing provides for expression of the immunoglobulin light and heavy chains; and harvesting specific antigen-binding antibody from culture supernatant, which antibody specifically binds an antigen of interest.